

Appl. No. : 09/593,587
Filed : June 13, 2000

REMARKS

Applicant acknowledges the Examiner's allowance of Claims 7-9, 14, and 15. In addition, the Examiner has stated that Claim 3 contains allowable subject matter. Thus, Claim 3 has been rewritten into independent form as new Claim 20. Applicant has further added new Claim 21. Thus, Claims 1, 3-15, and 18-21 are pending in the application and are presented for reconsideration and further examination in view of the amendments and the following remarks.

Claim Rejections under 35 U.S.C. § 102(b) in view of Shiina et al.

Claims 1, 10-11, and 18-19 were rejected under 35 U.S.C. § 102(b) as being anticipated by Shiina et al. (Japanese Patent Number 402154991). English abstract and constitution portions were provided to Applicant with the Office Action. Attached to Applicants' response are additional portions of the Shiina et al. which have been translated into English. The additional portions relate to Figures 1, 2, 17, and 18 of Shiina et al.

Claims 1 and 18

Shiina et al. is directed to enhancing heat transfer between a surface and a heat transfer fluid by interposing fibers (identified as 4 in Shiina et al.) between the surface and the fluid. These fibers are made of metal with a thickness of 35 micrometers (see description of Figure 1). The use of materials other than metal is not disclosed in Shiina et al. Moreover, a fiber (identified as 4) with a thickness other than 35 micrometers is not disclosed. A fiber (identified as 4a in Figure 18) is described as having "split hairs." To the extent that Shiina et al. discloses these split hairs or smaller diameter fibers attached to a larger diameter fiber, no dimensions of the smaller diameter fibers are provided. Thus, Shiina et al. does not disclose or teach, among other elements, "a plurality of elongate fibers ... wherein at least some of said fibers have a cross sectional diameter of less than approximately 1 micron and are bonded to a portion of other fibers having a cross sectional diameter of approximately 3-15 microns" as claimed in Applicants' amended Claim 1. Claim 18 has been amended such that the first plurality of fibers have a "diameter of less than about 15 micrometers" and thus is similarly patentable for the reasons stated above.

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Claim 10

In Figure 18, the split hairs appear to emanate from various axial locations along the length of the fibers (identified as 4). No method of attaching the split hairs to the tips of the fibers (identified as 4) is provided. Moreover, the fibers in Figure 18 of Shiina et al. are used to transfer heat to a liquid and thus may be less effective if the split hairs were located predominantly at the tip of each fiber. Thus, Shiina et al. does not disclose or teach, among other elements, “a plurality of fibers having first and second ends [and]... a material located predominantly proximate to said first ends” as claimed in Applicants’ Claim 10.

Therefore, Applicant respectfully requests that the rejection of Claims 1, 10, and 18 be withdrawn. Dependent Claims 4, 11, and 19 depend directly from independent Claims 1, 10, and 18, respectively, and thus are patentable for at least the same reasons, as independent Claims 1, 10, and 18 are patentable.

Claim Rejections under 35 U.S.C. § 103(a) over Shiina et al.

Claim 4 was rejected under 35 U.S.C. § 103(a) as unpatentable over Shiina et al. As discussed above, Applicant submits that claim 4 is patentable for at least the same reasons that claim 1 is patentable.

New Claims 20

Claim 3 was objected to as being dependent upon a rejected base claim. Applicant has added new Claim 20 which includes all of the limitations of Claim 3 and base Claim 1. Consideration and allowance of this new claim is respectfully requested.

New Claims 21

Applicant has added new Claim 21 to define additional aspects and features of the material. Applicant respectfully submits that Claim 21 is allowable as presented as it recites, *inter alia*, that the first plurality of fibers have a diameter of 3-15 micrometers. Applicant submits that this claim is not anticipated or rendered obvious by any of the cited references.

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Applicants also submits that the added claim is directed to the elected species of Figure 2. Consideration and allowance of this new claim is respectfully requested.

CONCLUSION

For the foregoing reasons, it is respectfully submitted that the rejections set forth in the outstanding Office Action are inapplicable to the present claims. Accordingly, early issuance of a Notice of Allowance is most earnestly solicited.

The undersigned has made a good faith effort to respond to all of the noted rejections and to place the claims in condition for immediate allowance. Nevertheless, if any undeveloped issues remain or if an issue requires clarification, the Examiner is respectfully requested to call Applicant's attorney, James Herkenhoff at (619) 687-8663 (direct line), in order to resolve any such issue promptly.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

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